

? Rapid response to:

Analysis

Face coverings for covid-19: from medical intervention to social practice

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Rapid Response:

Psychosocial, biological, and immunological risks for children and pupils make long-term wearing of mouth masks difficult to maintain

Dear Editor,

In a recent article, Westhuizen and colleagues [1] argued for a global implementation of face covering to control COVID-19 virus spread. In doing so, they do not differentiate between adults, adolescents, and children. This rapid response considers the negative effects at the immunological and psychological level of mandating facemasks for children and adolescents and maintains that they outweigh the possible gains.

1. SARS-COV-2 infection and transmission in children and adolescents is low

Infections with the virus SARS-COV-2 can occur in children and adolescents. The course of the disease is often mild or asymptomatic. In exceptional cases, severe Covid19 symptoms can occur in children or adolescents with underlying diseases. In a number of studies of hospitalized children with Kawasaki syndrome or multiple inflammations, there is a suspicion of a relationship with SARS-COV-2 infection, but this has not been unequivocally proven; antibodies and / or a positive rtPCR test were not detected in all patients [2]. Analyses by the Karolinska and Pasteur Institute concluded that children and adolescents are unlikely to be the main spreaders in the Covid19 pandemic [4-6]. Contamination from children to parents or teachers is sporadic. To date, the risk of infection appears to be greatest in the home situation, nursing homes and hospitals. In Sweden, where facemasks are not used in schools and schools even remained open during the first wave, as in other countries, the number of older people in intensive care has dropped from June to a few per week. Despite the recent increase in "Covid19 infections" in many other countries, only a small increase in Covid19 patients in intensive care units can be observed.

2. Facemasks at school: a slippery slope from virus protection to mental breakdown?

Reducing virus contamination using facemasks remains a topic of heated debate among scientists and policy makers [6-9]. At the outset of the pandemic, WHO experts advised that use of facemasks is not recommended as potential benefits are rather limited and there is a potential risk of self-contamination if used improperly. Moreover

the WHO stated in their report of June 5 “At present, there is no direct evidence (from studies on Covid19 and in healthy people in the community) on the effectiveness of universal masking of healthy people in the community to prevent infection with respiratory viruses, including Covid19 [10] Contamination of the upper respiratory tract by viruses and bacteria on the outside of medical face masks has been detected in several hospitals [11]. Another research shows that a moist mask is a breeding ground for (antibiotic resistant) bacteria and fungi, which can undermine mucosal viral immunity. This research advocates the use of medical / surgical masks (instead of homemade cotton masks) that are used once and replaced after a few hours [12]. This means that a family with 2 children and 2 parents who go to work by public transport and do their shopping will consume 20 facemasks per day (€ 25 / day, € 9,000 / year per family). Today, facemasks are considered an easily enforceable low-cost measure when 1.5 m social distance cannot be respected, in unventilated areas or in the presence of immunocompromised patients. Limited experimental and observational studies report a reduced risk of SARS-CoV2 virus transmission of 6-80%: the effectiveness varies greatly depending on the type and quality of the masks, the basic contamination level of the studied population, laboratory test used, and epidemic context [7-9, 13-14].

Aside from the highly variable protective effects, WHO mentions several negative aspects of frequent / long-term use of facemasks, fuelling the debate as to whether the benefits outweigh the drawbacks [10].

Many people report claustrophobic experiences and difficulty getting sufficient oxygen due to the increased resistance to inhaling and exhaling. This can lead to an increased heart rate, nausea, dizziness and headaches and several other symptoms [15,16]. In an inquiry among Belgian students wearing mouthmasks for one week, 16 % reported skinproblems and 7 % sinusitis. Also problems with eyes and headaches and fatigue were frequently mentioned [14]. Furthermore, face masking can provoke an increase in stress hormones with a negative impact on immune resilience in the long term [17]. Facemasks prevent the mirroring of facial expressions, a process that facilitates empathetic connections and trust between pupils and teachers. This potentially leads to a significant increase in socio-psychological stress. During childhood and puberty the brain undergoes sexual and mental maturation through hormonal epigenetic reprogramming [18-21]. Several studies show that long-term exposure to socio-psychological stress leaves neuro-epigenetic scars that are difficult to cure in young people and often escalate into mental behavioural problems and a weakened immune system [22-26]. A recent study by the CDC concludes that in young adults (18-24 years), the level of anxiety and depression has increased by 63% (!) since the corona crisis. A quarter of them think about suicide. As a result, the use of antidepressants has increased by 25% [27]. Several researchers have shown a relationship between the increase in stress experiences and the risk of upper respiratory tract infections and mortality [28-31].

3. A healthy diet and lifestyle for young people is more important than ever in the context of Covid19

At this moment the health protective benefits of non-professional use of facemasks are doubtful [32]. Hence, we argue for a less one-sided focus on facemasking, paying more attention for healthy lifestyle and psychological well-being [33-35] Especially for children and young people from families with a low economic status, malnutrition or chronic illnesses, explicit government support is requested [36] Attention to underexposed but important preventive nutritional support including vitamins D and C is needed to increase the anti-viral immune resistance, control disease and virus spread [37-39]. Complementary integration of healthy nutrition and lifestyle measures will further allow to reduce comorbidity risks (obesity, diabetes, CVD) for severe covid19 infections, which at long term will contribute to improved health and reduction in healthcare costs and promote resilience for a healthier society [36-39].

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